

Application No. 10/807,085

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CLAIM AMENDMENTS

1.-13. (Canceled)

14. (Previously Presented) An automated computer-to-plate plate handling apparatus for making printing plates comprising:

a plurality of cassettes, each cassette containing a supply of printing plates of a particular characteristic,

a plurality of vertically-spaced supports wherein a separate support corresponds to each cassette and holds each corresponding cassette;

an elevator that operatively holds and automatically moves the supports and corresponding cassettes, wherein the elevator positions a first support holding a first cassette to a first level so that the first cassette may move substantially horizontally on the first support at the first level;

a surface in proximity to the first support so as to form a substantially horizontal extension of the first support that is vertically fixed at the first level and permits the first cassette to move substantially horizontally between the first support and the surface and, when at least a portion of the first cassette is on the surface, the surface is used for one of unloading the first cassette or accessing the printing plates in the first cassette.

15. (Previously Presented) The computer-to-plate apparatus as set forth in claim 14 comprising:

a drum imaging engine that uses a laser to put an image onto one of the printing plates, wherein the elevator automatically positions the supports and plurality of cassettes to place a second cassette having the printing plate characteristic required by the image to a second level relative to the imaging engine; and

a plate picker for automatically removing a single printing plate from the second cassette and delivering the single printing plate to the drum imaging engine wherein the drum imaging engine puts the image directly onto the single printing plate to form an imaged printing plate.

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16. (Previously Presented) The computer-to-plate apparatus as set forth in claim 14 wherein at least one printing plate may be removed from the first cassette when the first cassette is on the surface.

17. (Previously Presented) The computer-to-plate apparatus as set forth in claim 14 wherein at least one printing plate may be loaded into the first cassette when the first cassette is on the surface.

18. (Previously Presented) The computer-to-plate apparatus as set forth in claim 14 comprising a controller in operative communication with the elevator and controlling the movement of the elevator.

19. (Previously Presented) The computer-to-plate apparatus as set forth in claim 14 comprising a controller in operative communication with the elevator and generating command signals, wherein each support and corresponding cassette on each support are automatically moved in response to the command signals.

20. (Previously Presented) The computer-to-plate apparatus as set forth in claim 14 wherein the surface may be pivoted to a substantially vertical position so as to form a door for blocking access to the first cassette on the first support.

21. (Previously Presented) The computer-to-plate apparatus according to claim 14, comprising an identification code on the first cassette identifying information about the printing plates in the first cassette, and means for communicating the identification code to the controller.

22. (Previously Presented) The computer-to-plate apparatus according to claim 14 wherein the supports hold the cassettes in a substantially horizontal orientation.

23. (Currently Amended) The computer-to-plate apparatus according to claim 14 wherein the surface holds the first cassette in a substantially horizontal orientation when the surface is pivoted to a substantially horizontal position.

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24. (Canceled)

25. (Previously Presented) The computer-to-plate apparatus according to claim 14 comprising cassette movement means for facilitating smooth and easy movement of the first cassette between the first support and the surface.

26. (Previously Presented) The computer-to-plate apparatus according to claim 25 wherein the cassette movement means comprises a plurality of first wheels mounted to the surface for facilitating smooth and easy movement of the first cassette between the surface and first support.

27. (Previously Presented) The computer-to-plate apparatus according to claim 26 wherein the cassette movement means comprises a plurality of second wheels mounted to the first support for facilitating smooth and easy movement of the first cassette between the surface and first support.

28.-32. (Canceled)

33. (Previously Presented) The computer-to-plate apparatus according to claim 14 comprising a drum imaging engine that uses a laser to put an image onto one of the printing plates to form an imaged plate, and

at least one vacuum plate picker for automatically attaching directly to the top of a single printing plate in the first cassette, and removing the single printing plate from the first cassette, and delivering the single printing plate to the drum imaging engine wherein the vacuum plate picker remains attached to the top of the single printing plate until the drum imaging engine receives the single printing plate.

34. (Previously Presented) The computer-to-plate apparatus according to claim 33 comprising a plate processor for processing the imaged printing plate.

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35. (Previously Presented) The computer-to-plate apparatus as set forth in claim 34 comprising a controller in operative communication with the elevator and generating command signals, wherein each support and corresponding cassette on each support are moved in response to the command signals.

36. (Previously Presented) The computer-to-plate apparatus according to claim 34 wherein the supports hold the cassettes in a substantially horizontal orientation.

37. (Currently Amended) The computer-to-plate apparatus according to claim 34 wherein the surface holds the first cassette in a substantially horizontal orientation when the surface is pivoted to a substantially horizontal position.

38. (Previously Presented) The computer-to-plate apparatus according to claim 34 comprising cassette movement means for facilitating smooth and easy movement of the first cassette between the first support and the surface.

39. (Previously Presented) The computer-to-plate apparatus according to claim 34 wherein the cassette movement means comprises a plurality of first wheels mounted to the surface for facilitating smooth and easy movement of the first cassette between the surface and first support.

40. (Previously Presented) The computer-to-plate apparatus according to claim 39 wherein the cassette movement means comprises a plurality of second wheels mounted to the first support for facilitating smooth and easy movement of the first cassette between the surface and first support.

41. (Previously Presented) An automated computer-to-plate platesetter for automatically making printing plates comprising:

a computer containing a digital file representing an image to be printed;
a plate handler containing (a) at least first and second plate stacks wherein each plate stack contains plates with a particular characteristic, (b) a first generally flat surface for holding the first plate stack and a second generally flat surface for holding the second plate

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stack, and (c) an automatic positioning mechanism that automatically moves the first and second flat surfaces and plate stacks in a generally vertical direction between lower and upper positions so that when the first flat surface is moved to a plate unload position located between the lower and upper positions, the first flat surface is positionable in the horizontal direction to facilitate unloading and loading of the plate stack on the first flat surface;

an imaging engine that has an imaging drum and a laser to directly image printing plates that are delivered from a desired plate stack and that electronically communicates with the plate handler and sends a command to the plate handler that identifies the desired plate stack required by the digital file so that, in response to the command, the positioning mechanism automatically places the desired plate stack in an access position located between the lower and upper positions and a single desired plate may be removed from the desired plate stack; and

an automatic plate picker that automatically removes the single desired plate from the desired plate stack in the access position and delivers the single desired plate to the imaging engine wherein the imaging engine directly images the single plate according to the digital file to form an imaged plate.

42. (Previously Presented) The automatic computer-to-plate platesetter as set forth in claim 41, wherein the plate stacks are stored substantially horizontally.

43. (Previously Presented) The automatic computer-to-plate platesetter as set forth in claim 41, further comprising a slip sheet detector that detects whether a slip sheet is present on top of the desired plate stack in the access position.

44. (Previously Presented) The automatic computer-to-plate platesetter as set forth in claim 41, further comprising a slip sheet removal mechanism for removing a slip sheet when present on top of the desired plate stack in the access position.

45. (Previously Presented) The automatic computer-to-plate platesetter as set forth in claim 41, wherein the plate picker moves in a substantially horizontal direction with respect to the plate stacks to transfer the desired plate from the desired plate stack in the access position to the imaging engine.

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46. (Previously Presented) The automatic computer-to-plate platesetter as set forth in claim 41, wherein the plate picker and desired plate stack move relative to each other so that the plate picker may remove the single desired plate from the desired plate stack and directly transfer the desired plate to the imaging engine.

47. (Previously Presented) The automatic computer-to-plate platesetter as set forth in claim 41, wherein the plate handler can automatically position the plate stacks during delivery of a previous desired plate to the imaging engine.

48. (Previously Presented) The automatic computer-to-plate platesetter as set forth in claim 47, wherein the command comprises information about a plate size required by a job.

49. (Previously Presented) The automatic computer-to-plate platesetter as set forth in claim 41, further including means for maintaining a light tight interior within the platesetter.

50. (Previously Presented) The automatic computer-to-plate platesetter as set forth in claim 41, further comprising printing plates which are photosensitive.

51. (Currently Amended) The automatic computer-to-plate platesetter as set forth in claim 41, further comprising printing plates which are thermal plates and imaged by the laser, ~~and said imaging engine is a thermal recording engine.~~

52. (Previously Presented) The automatic computer-to-plate platesetter as set forth in claim 41, further comprising a processing device for processing the imaged plate.

53. (Previously Presented) An automatic computer-to-plate platesetter for making plates comprising:

a digital file of an image;

a plurality of plate stacks, each plate stack having printing plates of a particular plate characteristic;

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a plurality of plate support tables, wherein each of the support tables corresponds to and supports each plate stack;

an imaging engine that has an imaging drum and a laser to directly image the digital file onto a printing plate and a command generator in communication with the plate handler;

an elevator that automatically positions the plate support tables and plate stacks between lower and upper levels, wherein the elevator positions, in response to a signal from the command generator requesting a particular plate, a desired plate stack having a desired plate characteristic to an access level located between the upper and lower levels which permits access to the desired plate stack;

an automatic plate picker that automatically removes a first desired plate from the plate stack at the access level and delivers the first desired plate directly to the imaging engine wherein the imaging engine images the digital file onto the first desired plate to form an imaged plate; and

wherein the elevator positions the plate support tables to an intermediate level located between the lower and upper levels and supports the plate support tables for horizontal movement into and out of the elevator so that plate stacks may be placed on and removed from the plate support table.

54. (Previously Presented) The computer-to-plate platesetter as set forth in claim 53, further comprising a front end in communication with the imaging engine for sending an input command that identifies the plate characteristic required by the digital file.

55. (Previously Presented) The computer-to-plate platesetter as set forth in claim 53, wherein the plate stacks are moved in a substantially vertical direction by the elevator.

56. (Previously Presented) The computer-to-plate platesetter as set forth in claim 53, further comprising a slip sheet detector for detecting whether a slip sheet is present on top of the plate stack at the access level.

57. (Previously Presented) The computer-to-plate platesetter as set forth in claim 53, further comprising a slip sheet removal mechanism for removing a slip sheet when present on top of the plate stack at the access level.

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58. (Previously Presented) The computer-to-plate platesetter as set forth in claim 53, wherein the plate picker moves substantially horizontally with respect to the plate stack at the access level to transfer the first desired plate to the imaging engine.

59. (Previously Presented) The computer-to-plate platesetter as set forth in claim 53, further including means for maintaining a light tight interior within the platesetter.

60. (Previously Presented) The computer-to-plate platesetter as set forth in claim 53, further comprising printing plates which are photosensitive.

61. (Currently Amended) The computer-to-plate platesetter as set forth in claim 53, further comprising printing plates which are thermal plates and ~~wherein the imaging engine is a thermal recording engine imaged by the laser.~~

62. (Previously Presented) The computer-to-plate platesetter as set forth in claim 53, wherein the elevator automatically positions a plate stack containing a second desired plate to the access level while the plate picker is delivering the first desired plate.

63. (Previously Presented) The computer-to-plate platesetter as set forth in claim 53, comprising an actuator that moves the table and plate picker towards each other so the plate picker may engage the desired plate in accordance with the command signals.

64. (Previously Presented) The automatic computer-to-plate platesetter as set forth in claim 53 wherein an actuator moves the table towards the plate picker so the plate picker may engage the desired plate.

65. (Previously Presented) The automatic computer-to-plate platesetter as set forth in claim 53 wherein an actuator moves the plate picker towards the table so the plate picker may engage the desired plate.

66. (Canceled)

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67. (Previously Presented) The automatic computer-to-plate platesetter as set forth in claim 53 wherein an actuator moves at least one of the table and the plate picker in at least one of a vertical and horizontal direction towards each other so that the plate picker may engage the desired plate.

68. (Previously Presented) The automatic computer-to-plate platesetter as set forth in claim 53 wherein an actuator moves the table in a generally vertical direction towards the plate picker so that the plate picker may engage the desired plate.

69. (Currently Amended) The automatic computer-to-plate platesetter as set forth in claim 53 wherein an actuator moves the plate picker in a generally horizontal ~~vertical~~ direction towards the table so that the plate picker may engage the desired plate.